

Versions with markings to show changes made

-1- (Amended)

A composition for protecting cultivated plants comprising:

(a) at least one herbicide; and

(b) [a] repellent adjuvant selected from the group consisting of silane, silicone, siliconate and mixtures thereof which are organic for modifying surface properties of the composition so that retention of the composition on foliage of the cultivated plant is reduced.

-4- (Amended)

The composition of Claim 3 wherein the safener is selected from the group consisting of 4-(dichloroacetyl)-1-oxo-4-azaspiro-(4,5)-decane [MON 4660], 2,2-dichloro-N,N-di-2-propenylacetamide, 3-dichloroacetyl-5-(2-furanyl)-2,2-dimethyl-oxazolidine, 2,2,5-trimethyl-N-dichloroacetyloxazolidine, 2,2-dimethyl-5-phenyl-N-dichloroacetyl oxazolidine, N,N-diallyl-2,2-dichloroacetamide, 2,2-dimethyl-5(2-furanyl)-N-dichloroacetyl oxazolidine, 2,2-dimethyl-5(2-thienyl)-N-dichloroacetyl oxazolidine, 2,2-spirocyclohexy-N-dichloroacetyl oxazolidine, 4-(dichloroacetyl)-3,4-dihydro-3-methyl-2H-1,4-benzoxazine, 3-[3-(dichloroacetyl)-2,2-dimethyl-5-oxalidinyl]pyridine, 4-(dichloroacetyl)-1-oxa-4-azaspiro-(4,5)-decane, 2,2-dichloro-1-(1,2,3,4-tetrahydro-1-methyl-2-

isoquinolyl)ethanone, cis/trans-1,4-bis(dichloroacetyl)-
2,5-dimethylpiperazine, N-(dichloroacetyl)-1,2,3,4-
tetrahydroquinaldine, 1,5-bis(dichloroacetyl)-1,5-
diazacyclononane, 1-(dichloroacetyl)-1-
5 azaspiro[4,4]nonane, and combinations thereof.

-12-(Amended)

The method of Claim 1 wherein the repellent
[repellant] adjuvant is [selected from the group
consisting of] an aqueous solution of sodium methyl
siliconate [and an aqueous solution of N-(2-aminoethyl)-
5 3-aminopropyltrimethoxysilane and
methyltrimethoxysilane].

-18-(Amended)

The composition of Claim 17 wherein the
safener is selected from the group consisting of
benoxacor, flurilazole, dichlormid and 4-
(dichloroacetyl)-1-oxo-4-azaspiro-(4,5)-decane [MON
4660].

A method for protecting crop plants without injuring crop plants, the steps comprising:

5 (a) providing a herbicidal formulation comprising at least one herbicide admixed with a repellent adjuvant selected from the group consisting of silane, silicone, siliconate and mixtures thereof which are organic wherein the repellent [repellant] adjuvant modifies surface properties of the formulation thereby reducing retention of the formulation on foliage of crop plants; and

10 (b) applying the formulation to the crop plants wherein the formulation bounces off the foliage onto the soil wherein the formulation protects the crop plants without injuring the crop plants.

A method for inhibiting a weed without injuring turfgrass, the steps comprising:

(a) providing a liquid dispersion of a herbicidal formulation comprising at least one herbicide admixed with a repellent adjuvant which is an organosiliconate wherein the repellent [repellant] adjuvant modifies surface properties of the formulation thereby reducing retention of the formulation on foliage of the turfgrass; and

(b) applying the formulation to the turfgrass wherein the formulation bounces off the foliage onto the soil wherein the formulation inhibits growth of the weed.

The method of Claim 27 wherein the safener is selected from the group consisting of 4-(dichloroacetyl)-1-oxo-4-azaspiro-(4,5)-decane [MON 4660], 2,2-dichloro-N,N-di-2-propenylacetamide, 3-dichloroacetyl-5-(2-furanyl)-2,2-dimethyl-oxazolidine, 2,2,5-trimethyl-N-dichloroacetyloxazolidine, 2,2-dimethyl-5-phenyl-N-dichloroacetyl oxazolidine, N,N-diallyl-2,2-dichloroacetamide, 2,2-dimethyl-5(2-furanyl)-N-dichloroacetyl oxazolidine, 2,2-dimethyl-5(2-thienyl)-N-dichloroacetyl oxazolidine, 2,2-spirocyclohexy-N-dichloroacetyl oxazolidine, 4-(dichloroacetyl)-3,4-dihydro-3-methyl-2H-1,4-benzoxazine, 3-[3-(dichloroacetyl)-2,2-dimethyl-5-oxalidinyl]pyridine, 4-(dichloroacetyl)-1-oxa-4-azaspiro-(4,5)-decane, 2,2-dichloro-1-(1,2,3,4-tetrahydro-1-methyl-2-isoquinolyl)ethanone, cis/trans-1,4-bis(dichloroacetyl)-2,5-dimethylpiperazine, N-(dichloroacetyl)-1,2,3,4-tetrahydroquinoline, 1,5-bis(dichloroacetyl)-1,5-diazacyclononane, 1-(dichloroacetyl)-1-azaspiro[4,4]nonane, and combinations thereof.

The method of Claim [24 or] 25 wherein the repellent [repellant] adjuvant is an aqueous solution of an organosiliconate which has the formula



wherein X denotes sodium or potassium, and R is methyl, ethyl, or propyl, and the ratio of Si:X is about 1:1.

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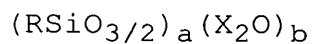
A method for applying one or more postemergence herbicides for controlling weeds to a crop plant without injuring the crop plant, the steps comprising:

5 (a) providing a composition comprising at least one herbicide admixed with a repellent adjuvant which is an organosiliconate wherein the repellent [repellant] adjuvant modifies surface properties of the formulation thereby reducing retention of the formulation on foliage of crop plants; and

10 (b) applying the formulation to the plants wherein the formulation bounces off the foliage onto the soil wherein the formulation controls the weeds without injuring the crop plant.

The method of Claim 45 wherein the
repellent [repellant] adjuvant is an aqueous solution
of the [an] organosiliconate which has the formula

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wherein X denotes sodium or potassium, and R is methyl,
ethyl, or propyl, and the ratio of Si:X is about 1:1.

The method of Claim 55 wherein the safener is selected from the group consisting of 4-(dichloroacetyl)-1-oxo-4-azaspiro-(4,5)-decane [MON 4660], 2,2-dichloro-N,N-di-2-propenylacetamide, 3-dichloroacetyl-5-(2-furanyl)-2,2-dimethyl-oxazolidine, 2,2,5-trimethyl-N-dichloroacetyloxazolidine, 2,2-dimethyl-5-phenyl-N-dichloroacetyl oxazolidine, N,N-diallyl-2,2-dichloroacetamide, 2,2-dimethyl-5(2-furanyl)-N-dichloroacetyl oxazolidine, 2,2-dimethyl-5(2-thienyl)-N-dichloroacetyl oxazolidine, 2,2-spirocyclohexy-N-dichloroacetyl oxazolidine, 4-(dichloroacetyl)-3,4-dihydro-3-methyl-2H-1,4-benoxazine, 3-[3-(dichloroacetyl)-2,2-dimethyl-5-oxalidinyl]pyridine, 4-(dichloroacetyl)-1-oxa-4-azapiro-(4,5)-decane, 2,2-dichloro-1-(1,2,3,4-tetrahydro-1-methyl-2-isoquinolyl)ethanone, cis/trans-1,4-bis(dichloroacetyl)-2,5-dimethylpiperazine, N-(dichloroacetyl)-1,2,3,4-tetrahydroquinaldine, 1,5-bis(dichloroacetyl)-1,5-diazacyclononane, 1-(dichloroacetyl)-1-azaspiro[4,4]nonane, and combinations thereof.

A composition for protecting cultivated plants comprising:

(a) an acetochlor herbicide;

(b) a safener selected from the group consisting of 4-(dichloroacetyl)-1-oxo-4-azaspiro-(4,5)-decane [MON 4660], 2,2-dichloro-N,N-di-2-propenylacetamide, 3-dichloroacetyl-5-(2-furanyl)-2,2-dimethyl-oxazolidine, 2,2,5-trimethyl-N-dichloroacetyloxazolidine, 2,2-dimethyl-5-phenyl-N-dichloroacetyl oxazolidine, N,N-diallyl-2,2-dichloroacetamide, 2,2-dimethyl-5(2-furanyl)-N-dichloroacetyl oxazolidine, 2,2-dimethyl-5(2-thienyl)-N-dichloroacetyl oxazolidine, 2,2-spirocyclohexy-N-dichloroacetyl oxazolidine, 4-(dichloroacetyl)-3,4-dihydro-3-methyl-2H-1,4-benzoxazine, 3-[3-(dichloroacetyl)-2,2-dimethyl-5-oxalidinyl]pyridine, 4-(dichloroacetyl)-1-oxa-4-azaspiro-(4,5)-decane, 2,2-dichloro-1-(1,2,3,4-tetrahydro-1-methyl-2-isoquinolyl)ethanone, cis/trans-1,4-bis(dichloroacetyl)-2,5-dimethylpiperazine, N-(dichloroacetyl)-1,2,3,4-tetrahydroquinaldine, 1,5-bis(dichloroacetyl)-1,5-diazacyclononane, 1-(dichloroacetyl)-1-azaspiro[4,4]nonane, and combinations thereof; and

(c) a repellent adjuvant which is an organosiliconate for modifying surface properties of the composition so that retention of the composition on foliage of the cultivated plant is reduced.

A composition for protecting cultivated plants comprising:

(a) one or more of a herbicide selected from the group consisting of nicosulfuron, glyphosphate [-isopropyl amine salt], glyphosphate, primisulfuron, chlorimuron, glufosinate-ammonium salt, linuron, linuron and chlorimuron ethyl, thifensulfuron, imazethapyr, imazaquin, acetochlor, alachlor, S-ethyldipropylthiocarbonate, [glyphosphatetrimethyl-sulfonium salt,] isoxaflutole, flufenacet, metalachlor, and combinations thereof; and

(b) a repellent adjuvant which is an organosiliconate for modifying surface properties of the composition so that retention of the composition on foliage of the cultivated plant is reduced.

The composition of Claim 59 wherein the safener is selected from the group consisting of 4-(dichloroacetyl)-1-oxo-4-azaspiro-(4,5)-decane [MON 4660], 2,2-dichloro-N,N-di-2-propenylacetamide, 3-dichloroacetyl-5-(2-furanyl)-2,2-dimethyl-oxazolidine, 2,2,5-trimethyl-N-dichloroacetyloxazolidine, 2,2-dimethyl-5-phenyl-N-dichloroacetyl oxazolidine, N,N-diallyl-2,2-dichloroacetamide, 2,2-dimethyl-5(2-furanyl)-N-dichloroacetyl oxazolidine, 2,2-dimethyl-5(2-thienyl)-N-dichloroacetyl oxazolidine, 2,2-spirocyclohexy-N-dichloroacetyl oxazolidine, 4-(dichloroacetyl)-3,4-dihydro-3-methyl-2H-1,4-benzoxazine, 3-[3-(dichloroacetyl)-2,2-dimethyl-5-oxalidinyl]pyridine, 4-(dichloroacetyl)-1-oxa-4-azaspiro-(4,5)-decane, 2,2-dichloro-1-(1,2,3,4-tetrahydro-1-methyl-2-isoquinolyl)ethanone, cis/trans-1,4-bis(dichloroacetyl)-2,5-dimethylpiperazine, N-(dichloroacetyl)-1,2,3,4-tetrahydroquinazoline, 1,5-bis(dichloroacetyl)-1,5-diazacyclononane, 1-(dichloroacetyl)-1-azaspiro[4,4]nonane, and combinations thereof.

-61-(Amended)

A composition for protecting cultivated plants comprising:

(a) a herbicide which is isooxaflutole [S-ethyl dipropylthio-carbonate];

5 (b) a safener which is 2,2,5-trimethyl-N-dichloro-acetyloxazolidine; and

(c) a repellent adjuvant which is an organosiliconate for modifying surface properties of the composition so that retention of the composition on
10 foliage of the cultivated plant is reduced.

-62-(Amended)

A composition for protecting cultivated plants comprising:

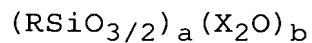
(a) a herbicide which is halosulfuron;

(b) a safener which is 3-dichloroacetyl-5-
5 (2-furanyl)-2,2-dimethyloxazolidine; and

(b) a repellent adjuvant which is an organosiliconate for modifying surface properties of the composition so that retention of the composition on foliage of the cultivated plant is reduced.

The composition of any one of Claims 57, 58, 59, 60, 61, or 62 wherein the repellent [repellant] adjuvant is an aqueous solution of the [an] organosiliconate which has the formula

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wherein X denotes sodium or potassium, and R is methyl, ethyl, or propyl, and the ratio of Si:X is about 1:1.